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Glulam Vs Steel

Few people now deny the science behind global warming and the importance of taking the threat seriously (a few renegades like Jeremy Clarkson maybe!). Shrinking land mass due to rising sea levels, the rendering of large areas of equatorial locations uninhabitable desert, the spread of pathogens like malaria to northern Europe... need I go on?

Construction is said to be responsible for approximately 66% of UK emissions so it is a positive step that we see huge improvements in standards of insulation and the widespread use of renewable technologies like photovoltaics. There are also good resources for finding more environmentally friendly materials, like greenspec.co.uk.

Why is it then that the cardinal carbon sin of specifying steel is so common?

Steel is a versatile material. It is also produced from quarried iron ore, largely coming from South America and is heated in a blast furnace to 1000°C. Need I even say this brings its carbon footprint through the roof ? even a roof with the highest standards of insulation! Whilst a steel beam is going through one of these shamefully polluting processes however, a forest somewhere in Scandinavia is absorbing tonnes of carbon from our atmosphere. If FSC or PEFC approved, trees will be replanted at the same rate they are cut down, maintaining this carbon store whilst providing a valuable building material ? timber. Timber may have been seen as inferior to steel in the past, but engineered timber products like glulam and LVL can now compete.

So why is it that steel is still our preferred material?

Firstly, tradition. For structural engineers who have spent their lives carrying out calculations for steel elements, it is easier to carry on with what they know. Added to this the steel industry is so big and well established that its place in the market and in our culture is firmly rooted - university construction courses are still heavily biased towards steel and the finance behind the industry enables a continued campaign of indoctrination. Public awareness of engineered timber could certainly be improved - everyone knows what an RSJ is but the same could not be said for a glulam beam. Another factor is our perception of glulam as an attractive architectural feature, over its functional uses. Where steel RSJs are hidden behind plasterboard, a glulam beam could more than likely perform the same job but it is rarely considered in these circumstances.

Hopefully in the coming years we will see a revolution where in the same way RSJ has become part of the English language, GB will be.

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